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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/596,269

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Keith Johnson

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EXAMINER

MCKANE, ELIZABETH L

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

10/29/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,269	Applicant(s) JOHNSON ET AL.	
	Examiner ELIZABETH L. MCKANE	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5, 21, and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 5 and 22, the phrase “relatively small depth” in claims 5 and 22 renders these claims vague and indefinite as the depth intended by “relatively small” is unclear.

As to claim 21, the phrase “relatively rigid” is confusing as the rigidity intended by “relatively rigid” is unclear.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 27 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Larson (GB 1545232).

Larson teaches an apparatus for treating marine growth on a surface including a housing **1** for mounting a heating means **13** to enable heating of a portion of the surface, and a retaining means **2** arranged to retain the housing proximate the surface,

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the housing arrangement being moveable over the surface to enable treatment of other portions of the surface. See page 1, lines 8-10; page 2, lines 50-56. The method includes the steps of utilizing the heating arrangement **13** to heat a portion of the surface, retaining the heating arrangement against the surface (page 1, lines 70-74) and moving the heating arrangement over the surface to treat other portions of the surface.

5. Claims 1, 3-6, 12, 13, 15, 17, 18, 22, 23, 27, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Clum et al. (US 5,389,266).

With respect to claims 1, 3, 4, 6, 12, 13, 15, 17, 18, 23, 27, and 28, Clum et al. teaches a method and apparatus for treating marine growth on the surface of a water-going craft (col.2, lines 5-9) wherein the method includes the steps of using an arrangement **16** to confine a volume/layer adjacent a portion of the surface (Figures 2 and 7), introducing a heated fluid into the volume to heat the marine growth (col.4, lines 15-19), moving the confined volume over the surface to treat other portions of the surface (col.4, lines 3-8), and retaining the confined volume adjacent the surface regardless of the orientation of the surface (seal **136**; col.3, line 66 to col.4, line 3). The heating fluid is circulated into the enclosure from conduit **34** and exhausted through conduit **36**. In an alternate embodiment, the heated fluid may be exhausted into the surrounding environment. See col.5, lines 11-20.

As to claims 5 and 22, the depths illustrated in Figures 2 and 7, for example, are 'relatively small' compared to the depth of the ocean.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 2, 14, 16, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clum et al. as applied to claims 1 and 15 above, and further in view of Larson.

With respect to claims 2 and 16, Clum et al. is silent with respect to the use of magnets for retaining the volume adjacent the surface to be treated. Larson, however, discloses that it was known in the art at the time of the invention to employ magnets on a device for heat-treating surfaces in order to maintain contact of the device with the surface to be treated. See page 2, lines 50-56. As Clum et al. teaches maintaining contact of the device with the surface to be treated, it would have been obvious to use the magnets of Larson in the apparatus of Clum et al..

As to claims 14 and 19-21, although Clum et al. discloses use of a flexible cover (seal **136**), it is unclear if the apparatus of Clum et al. will conform to the surface as it is moved. However, Larson discloses that the treatment device does just this, so as to form a seal with the surface at all times. See page 1, lines 57-80; Figure 2. The means by which this end is achieved, is a number of rigid components **2** linked together. For the reasons disclosed by Larson, it would have been obvious to provide Clum et al. with the means of Larson in order to conform to the surface as it is moved.

9. Claims 7-11 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clum et al. as applied to claims 1 and 15 above, and further in view of Putz (US 5,593,636).

With respect to claims 7-9 and 24-26, Clum et al. is silent with respect to the depth dimension of the confined volume. Putz teaches a similar method of destroying marine organisms on submerged surfaces wherein a layer of water in contact with the structure is maintained at an elevated temperature for a time sufficient to kill the organisms. See Abstract. Furthermore, Putz discloses isolating an area of water adjacent the surface (col.3, lines 51-53) and that by limiting the volume of water to be treated, one limits the energy consumed to achieve the necessary temperature. See col.4, lines 31-35; col.4, line 62 to col.5, line 2. Thus, it would have been obvious to one of ordinary skill in the art to limit the depth of the confined volume, and thus the total volume of water to be heated, to as low a value as practicable, in order to reduce the energy consumption of the method/system. A suitable depth/volume could be easily ascertained through routine experimentation.

As to claims 10 and 11, Clum et al. fails to disclose varying the temperature of rate of introduction of the heated water. However, Putz teaches that “the range of lethal time/temperature combinations...are not constant for all situations... [and] may change with varying conditions, such as the rapidity with which the temperature can be increased during treatment, the initial ambient temperature of the water and the thermal tolerance of a particular mollusk population.” See col.5, lines 40-45; Figure 1. Thus, according to Putz, treatment parameters such as treatment temperature and time (which is directly correlated with the rate of introduction of heated water) would have been obviously optimized according to the conditions of the surface to be treated.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIZABETH L. MCKANE whose telephone number is (571)272-1275. The examiner can normally be reached on Mon-Fri; 5:30 a.m. - 2:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Elizabeth L McKane/
Primary Examiner, Art Unit 1797

elm
26 October 2009